DOCUMENT RESUME

ED 031 754 CG 004 309

By-Andrews, Joseph K.

The Results of A Pilot Program to Train Teachers in the Classroom Application of Behavior Modification Techniques.

Harford-Cecil Supplementary Education Center, Havre de Grace, Md.
Pub Date [69]
Note-7p.
EDRS Price MF-$0.25 HC-$0.45
Descriptors-*Behavior Change, Behavior Patterns, *Behavior Problems, Behavior Theories, Classroom Research, *Classroom Techniques, *Inservice Teacher Education, *Operant Conditioning, Teacher Workshops

The results of many investigations have demonstrated that the systematic application of behavioral modification principles can be effective in bringing about behavior change in educational settings. However, most school-oriented practitioners do not have the time, facilities, or personnel to employ the necessary techniques. After a half day in-service training experience, 14 teachers volunteered to attend a short series of meetings to set up individual treatment programs. Examples of some of the programs are given, including method, data, and results. The behavior to be modified was mostly simple, so as to have a greater chance of success for the teacher. All teachers were able to note at least some change. It is felt operant techniques can be effective in bringing about student, as well as teacher behavior change. In-service training in this area could prove valuable in providing teachers with effective techniques for changing classroom behavior, and thus reducing the heavy load on school psychologists. The research reported herein was funded under Title III Elementary and Secondary Education Act. (Author/KJ)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

THE RESULTS OF A PILOT PROGRAM TO TRAIN TEACHERS IN THE CLASSROOM APPLICATION OF BEHAVIOR MODIFICATION TECHNIQUES

ED031734

JOSEPH K. ANDREWS, Ph.D.

HARFORD-CECIL SUPPLEMENTARY EDUCATION CENTER

TITLE III ESEA

The results of many investigations have demonstrated that the systematic application of behavior modification principles can be effective in bringing about behavior change in educational settings. For example, Hart, Allen, Buell, Harris and Wolf (1964) were able to reduce crying by manipulating its social consequences, and Zimmerman and Zimmerman (1962) eliminated tantrum behavior in a special class child by making teacher approval contingent upon appropriate social behavior. The results of other studies have shown that it is possible to appreciably reduce disruptive classroom behavior by applying operant principles (Thomas, Becker and Armstrong, 1968; Madsen, Becker and Thomas, 1968; Allen, Reynolds, Harris and Baer, 1966). In addition, other investigations have centered around increasing the amount of time spent in attending to a task (Allen, Henke, Harris, Baer and Reynolds, 1967; Walker and Buckley, 1968), increasing the amount of time engaged in study behavior (Hall, Lund and Jackson, 1968), establishing cooperative social behavior (Hart, Reynolds, Brawley, Harris and Baer, 1966; Buell, Stoddard Harris and Baer, 1968), and the acquisition of speech in preschool disadvantaged children (Reynolds and Risley, 1968; Hart and Risley, 1968).

It has been demonstrated that parents can be trained to apply behavioral principles to bring about change in their own problem children (Walder, Cohen, Breiter, Daston, Hirsch, and Leibowitz, 1967; Walder, Cohen, Daston, Breiter and Hirsch, 1967; Walder, Breiter, Cohen, Daston, Forbes and McIntire, 1966). In addition, there has been some emphasis on training teachers to apply behavioral principles in the classroom (Hall, Panyan, Rabon and Broden, 1968; Ward and Baker, 1968). It should be noted that the training programs carried out by Hall, et.al., (1968) and Ward and Baker (1968) were very effective, but employed a number of relatively sophisticated procedures, e.g., one or two in-room observers to record behavior, and some electrically operated signal lights. These procedures should be carried out whenever and where ever possible; however, most school-oriented practitioners do not have the time, facilities, or personnel to employ these techniques. Therefore, the present project was undertaken to investigate the feasibility of conducting a short-term teacher training program in the classroom application of behavioral principles.

METHOD

The idea for the present project arose after a short explanation of behavioral techniques was presented to the teachers of two schools during a half-day in-service meeting. Following this meeting a questionnaire was sent to the teachers of the two schools to determine the number of teachers who would be interested in participating in a series of sessions devoted to operant techniques.

CG004309

The Teachers

Of the forty teachers to whom the questionnaire was sent fourteen indicated interest in participating in the training session. Three of the original fourteen could not participate in all of the training sessions because of year-end administrative duties.

The teachers represented grades kindergarten through grade four and ranged in experience from one to ten years. In addition to the regular class teachers, the group consisted of two teachers of the educable mentally retarded, one teacher of the trainable mentally retarded and one speech therapist.

Procedure

The writer requested and obtained permission to conduct the training program, at least in part, during the regular school day. The result was that the schools permitted the teachers to leave early one day a week so that the schools contributed 50% of the time and the teachers contributed 50% of their time.

Although more sessions would have been desirable, the total training program consisted of four - one and one-half hour sessions. The "text" employed was *Living With Children* (Patterson and Gullion, 1968). The book employs a programmed format and outlines the theory and application of social learning principles.

With regard to course content, the first session was devoted to the methods of observing behavior per se, introduction of reinforcement principles and the importance of record keeping. In addition, the teachers were asked to choose a specific target behavior in a given child, which required modification. The group was then instructed in techniques which could be used for the observation and recording of behavior, with the goal of determining the frequency of the behavior in question before intervention was instituted, i.e., establishing a baseline.

The second session was devoted to a discussion of extinction, the reinforcement of incompatible behaviors, and intermittent reinforcement. The baseline data were examined and suggestions were made by the writer, as well as the group, as to what techniques might be employed to modify the target behaviors.

Session three consisted of an examination of the treatment effects by comparing a week of baseline data with a week of intervention data. If the frequency of a target behavior was not changing in the desired direction, different procedures were discussed and decided upon.

The final session was devoted to a re-examination of the treatment effects, again, by referring to the data which had been gathered. The teachers were then asked to complete a course evaluation questionnaire.

RESULTS

The following are examples of the effects of the treatment programs instituted by the teachers.

Figure I is a representation of the behavior graph of a second grade girl. The behavior to be modified consisted of the girl's shouting out answers, making disturbing noises and inappropriate sounds.

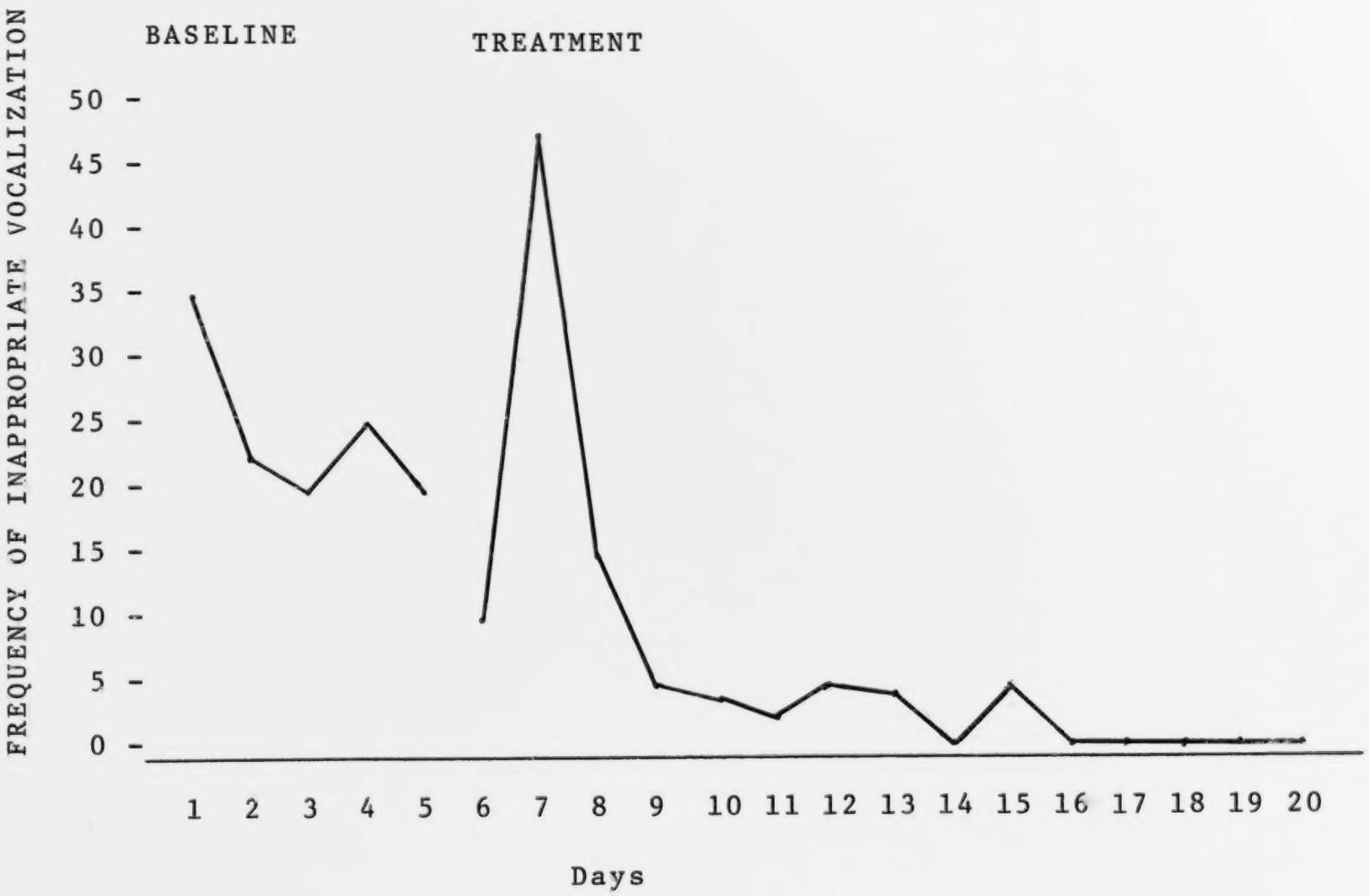

Fig. I The frequency of inappropriate vocalization for a second grade girl.

Prior to the institution of the treatment program the teacher seemed to be reinforcing this inappropriate behavior by attending to it. That is, the teacher would ask the girl to be quiet, reprimand her, etc., contingent upon the girl's shouting out. The child was observed for the same one hour time period for each of the twenty days, and the treatment plan consisted of the following:

> 1. Ignoring the girl's inappropriate vocalizations, 2. Recognizing the girl and dispensing verbal approval contingent upon hand-raising, and 3. Dispensing verbal approval, on a periodic basis throughout the day, for quiet behavior. As can be seen from Figure I, the frequency of inappropriate vocalization was reduced to zero.

Figure II represents the behavior graph of a ten year old trainable mentally retarded girl who manifested soiling behavior on a relatively consistent basis, with no evidence of an organic basis. Prior to treatment, each time the child soiled herself the child had to be washed and have a change of undergarments. In addition, the soiled undergarment had to be rinsed.

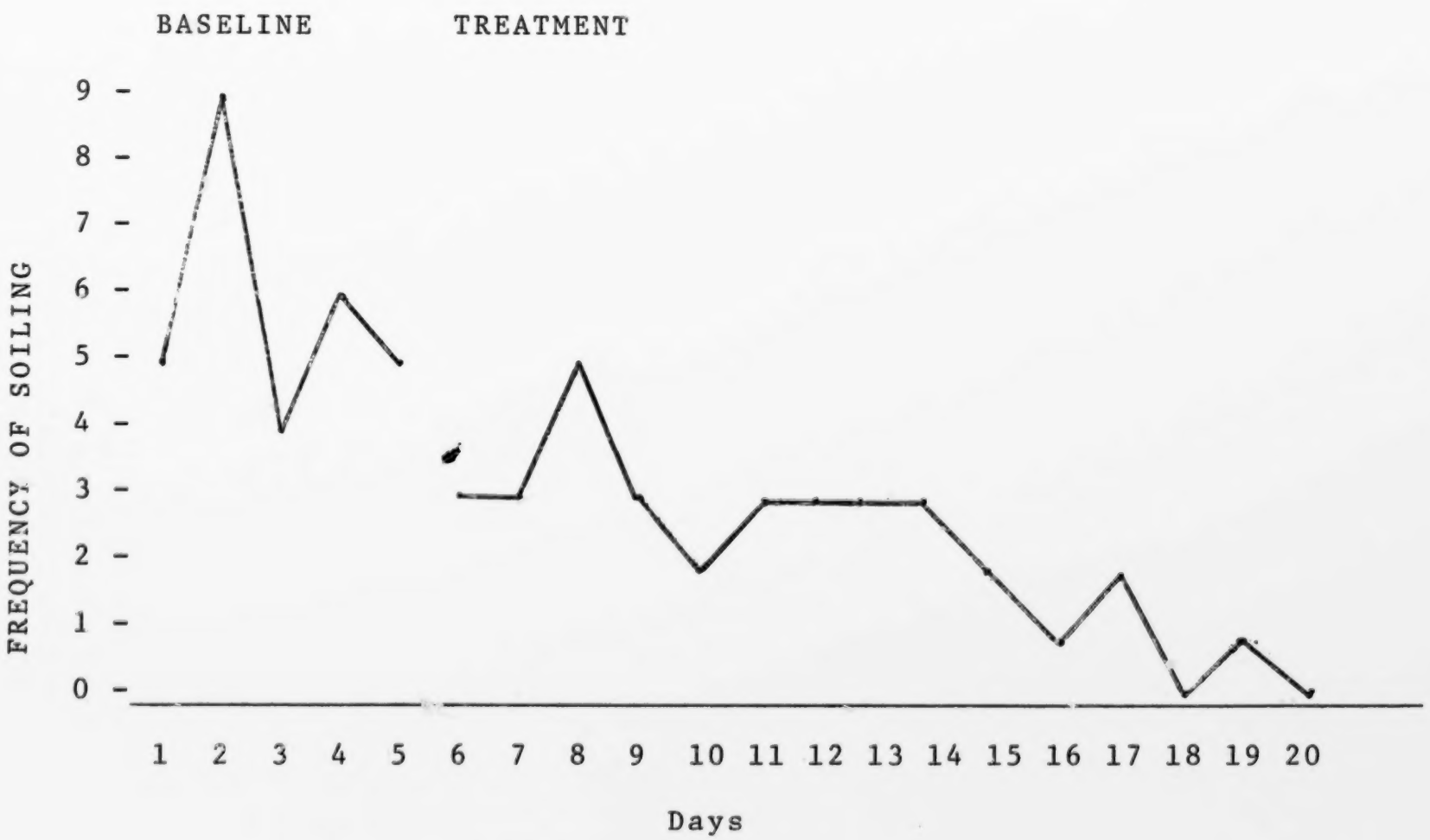

Fig. II Frequency of soiling, on a daily basis, in a trainable mentally retarded girl.

The treatment plan consisted of placing the child on a fifteen minute fixed-interval schedule of reinforcement. That is. the teacher played with, praised, and hugged the child for each fifteen minute interval during which she remained unsoiled. During the second week of treatment the teacher moved to a variable-interval schedule of reinforcement with an average of thirty minutes. By the end of the in-service training program the teacher had succeeded in reducing the frequency of soiling from an average of seven times per day to one or zero times per day.

Figure III represents the frequency with which a seven year old educable mentally retarded child left her seat during group speech therapy sessions. The group consisted of five children and met for two half-hour sessions per week. Prior to treatment the therapist spent much of her time telling the child to remain in her seat and thus, in effect, much of the half-hour was lost.

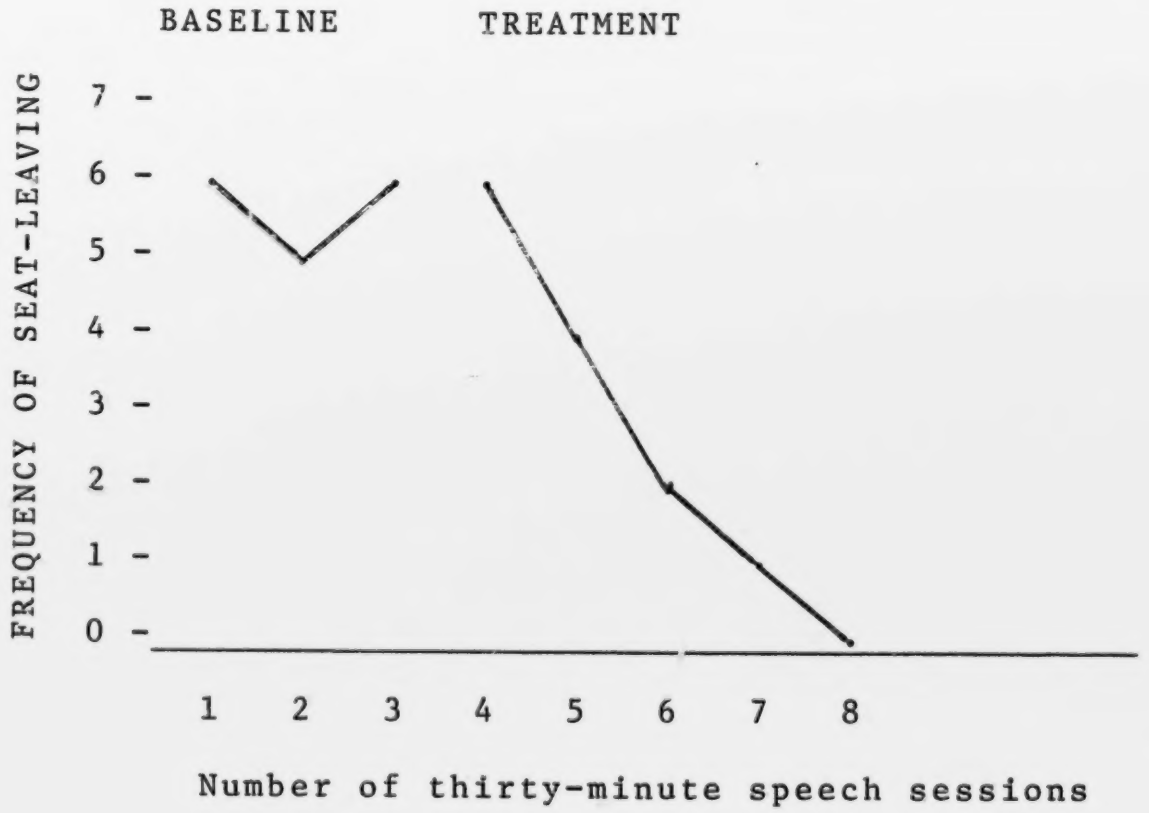

Fig. III The frequency of seat-leaving in an educable mentally retarded girl during thirty-minute speech therapy sessions.

Treatment consisted of placing the child on a five minute variable-interval schedule of reinforcement, using jelly beans as reinforcers. The speech therapist used a kitchen timer and dispensed jelly beans contingent upon each interval during which the child remained seated. A portion of the five minute variable-interval schedule of reinforcement reads as follows: Thirty seconds, five minutes, thirty seconds, one minute, two minutes, thirty seconds, forty seconds, ten minutes, etc. The results of Figure III indicate that in spite of the short period of time the program was in effect (two half-hour sessions per week) the frequency of seat leaving behavior was reduced from an average of five times per thirty minute session to two times per thirty minute session. Toward the end of the training project the therapist decided to institute the treatment program with all five children and reported that "the general behavior of the other children in the class had been noticeably improved."

RESULTS OF COURSE EVALUATION QUESTIONNAIRE

At the conclusion of the training program the teachers were asked to complete an eighteen item questionnaire, with a multiple-choice format, concerning such areas as utilization of time, procedures employed by the instructor, course content, etc. The responses to some of the questions in terms of percentages, are worth noting. For instance, to the question, "Would you recommend this course to a fellow teacher?" 63.6% said, "yes, very highly," 27.3% said, "yes, as better than many others," 9.1% said, "perhaps," and 0% said they probably would not, or decidedly would not recommend the course. If another course were offered in the area of behavior modification, 45.5% of the teachers indicated they would "definitely" enroll and 54.5% indicated that they would "very likely" enroll. In terms of the number of training sessions, 72.7% of the teachers felt that more sessions would have been appropriate while 27.3% felt that four sessions was sufficient. The teachers also were asked to give a subjective estimate of the amount of behavior change observed as a result of their treatment efforts. In response to this question, 36.5% saw a "great deal of change," 37.3% observed a "noticeable" change, 18.3% saw "some change," 0% saw "no change," and 9% (N=1) observed a change in the "opposite" direction.

DISCUSSION

Based on the data obtained from the behavior graphs and from the questionnaires it would appear that a short-term teacher training program in the classroom application of operant techniques can be effective in bringing about student, as well as teacher behavior change. Two points are worthy of note, however. The first is that the teachers involved in the training program were volunteers and as a result, probably had some motivation to implement treatment programs based on behavioral principles. Thus, it is certainly difficult to make generalizations from the present sample of teachers to nonvolunteer teachers. Secondly, the teachers were advised to concentrate on relatively simple behaviors, such as calling out inappropriately, seat-leaving, and hand-raising. It was recommended that the teachers not become involved in changing very complex behaviors for two reasons, one being the relatively short time which would be devoted to the training program. The second, and more important reason was that the instructor frankly wanted the teachers to be successful in their initial attempts at behavior modification. It was felt that if conditions could be arranged such that the teachers could be initially successful, this might provide some motivation for them to apply their knowledge of behavioral techniques to more complex situations. In addition, the behaviors on which the group concentrated were not totally irrelevant or unimportant. It would seem if such behaviors as hand-raising, calling out, and seat-leaving could be controlled that larger and more difficult problems could be prevented.

The final aspect of the training program which is worthy of note concerns the effective utilization of professional time. Most psychologists employed by school districts are faced with a continuous backlog of referrals. In addition, most would agree that this situation will persist if the individual or clinically-oriented model of service is not modified. It would appear that in-service training programs sililar to the present one could provide teachers with effective techniques for changing classroom behavior.

REFERENCES

ALLEN, K. E., HENKE, L. B., HARRIS, F. R., BAER, D. M., and REYNOLDS, N. J. Control of hyperactivity by social reinforcement of attending behavior. *Journal of Educational Psychology*, 1967, 58, 231-237.

ALLEN, K. E., REYNOLDS, N. Y., HARRIS, F. R., and BAER, D. M. Elimination of disruptive classroom behavior of a pair of preschool boys through systematic control of adult social reinforcement. Unpublished manuscript, University of Washington, 1966.

BUELL, J., STODDARD, P., HARRIS, F. R., and BAER, D. M. Collateral social development accompanying reinforcement of outdoor play in a preschool child. *Journal of Applied Behavior Analysis*, 1968, 1, 167-173.

HALL, V. R., LUND, D., and JACKSON, D. Effects of teacher attention on study behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 1-12.

HALL, V. R., PANYAN, M., RABON, D., and BRODEN, M. Instructing beginning teachers in reinforcement procedures which improve classroom control. *Journal of Applied Behavior Analysis*, 1968, 1, 315-322.

HART, B., ALLEN, E., BUELL, J., HARRIS, Florence R., and WOLF, M. Effects of social reinforcement on operant crying. *Journal of Experimental Child Psychology*, 1964, 1, 145-153.

HART, B. M., REYNOLDS, N. J., BRAWLEY, E. R., HARRIS, F. R., and BAER, D. M. Effects of contingent and noncontingent social reinforcement on the isolate behavior of a nursery schoolgirl. Unpublished manuscript, University of Washington, 1966.

HART, B. M., and RISLEY, T. R. Establishing use of descriptive adjectives in the spontaneous speech of disadvantaged preschool children. *Journal of Applied Behavior Analysis*, 1968, 1, 109-120.

MADSEN, C. H., BECKER, W. C., and THOMAS, D. R. Rules, praise, and ignoring: elements of elementary classroom control. *Journal of Applied Behavior Analysis*, 1968, 1, 139-150.

REYNOLDS, N. J. and RISLEY, T. R. The role of social and material reinforcers in increasing talking of a disadvantaged preschool child. *Journal of Applied Behavior Analysis*, 1968, 1, 253-262.

THOMAS, D. R., BECKER, W. C., and ARMSTRONG, Marianne. Production and elimination of disruptive classroom behavior by systematically varying teacher's attention. *Journal of Applied Behavior Analysis*, 1968, 1, 35-45.

WALDER, L. O., BREITER, D. E., COHEN, S. I., DASTON, P. G., FORBES, J. A., and McINTIRE, R. W. Teaching parents to modify the behavior of their autistic children. Paper read at American Psychological Association, New York, September 4, 1966.

WALDER, L. O., COHEN, S. I., BREITER, D. E., DASTON, P. G., HIRSCH, I. S., and LEIBOWITZ, J. M. Teaching behavioral principles to parents of disturbed children. Paper read at Eastern Psychological Association, Boston, April 6, 1967.

WALDER, L. O., COHEN, S. I., DASTON, P. G., BREITER, D. E., AND HIRSCH, I. S. Behavior therapy of children through their parents. Paper read at American Psychological Association, Washington, D. C., September 4, 1967.

WALKER, H. M., and BUCKLEY, N. K. The use of positive reinforcement in conditioning attending behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 245-250.

WARD, M., and BAKER, B. Reinforcement therapy in the classroom. *Journal of Applied Behavior Analysis*, 1968, 1, 323-328.

ZIMMERMAN, E., and ZIMMERMAN, J. The alteration of behavior in a special classroom situation. *Journal of the Experimental Analysis of Behavior*, 1962, 5, 59-60.